

Statement of Purpose – Nathaniel Schwartz

One of my goals in life is to enjoy what I do. I enjoy being challenged by my work, and I enjoy teaching and learning with people. I also enjoy math, and that is why I decided to be a math major. My first math teacher was a huge inspiration to me. He was a great teacher, and he was thoughtful and respectful to everyone. He inspired me because he was so passionate about math himself – you could see an excited glow on his face when he was talking about the cycloid curve or the relationship between the sine and the cosine functions. He taught me to enjoy math, and to see it as something beautiful instead of seeing it only as a necessary evil.

I enjoy doing math, but I am not a genius. I work hard and I am passionate about my work, and that is the “secret” to my success as a student. One reason that I enjoy math is because it is a pure subject, and I feel like I am seeking truth; it is not just the answer to a problem or a theory to help businessmen make more money. It is like uncovering the building blocks of the universe. Of course, I am still a long way from proving some profound theorem that will open the eyes of the world, but that is unimportant as long as I feel like I am playing with God's Legos.

I want to focus on pure math as a graduate student. My favorite classes have been theoretical math, especially abstract algebra, analysis and topology. However, the only research I have done so far has been in applied math. I spent last summer doing research with a professor from math and one from biology, and I am continuing that project this spring. Our goal is to determine how pollen is dispersed by animals. We developed a simple agent-based model that we used to simulate the dispersion process. I gave a short presentation at a conference at Appalachian State University in November, and hope to be able to submit a paper by the end of this spring.

I am also interested in computers, programming and computer science in general – my major is in math and computer science. I would like to use the skills I have in that field to do research in math. I also plan on contributing to software that is freely available for others to use, preferably software that helps people do mathematics, or software that uses mathematics. I enjoy programming, and that I want to use my skills as a way to help others.

There are many good math programs around the country, but I have chosen to apply only to NCSU. There are several reasons for this, one of which is that NCSU is the perfect place for both me and my wife to pursue our academic goals. We like the campus, and I felt welcomed by the all the people I met in the department. I am also attracted by the quality of the program and the diversity of study areas available. I want to get the best education possible. While I realize that what I get depends largely upon what I am willing to give, I am also aware that the quality of the program is just as significant. Although my primary interests are in algebra, I also have interests in mathematical biology, and NCSU has a good reputation in pure and applied mathematics as well as in mathematical biology.